

Remarks

Applicant respectfully submits that entry of this Response is proper as it makes no amendments to the claims.

Independent Claim 1

The Office Action maintains the rejection of independent claim 1 under 35 U.S.C. §102 as anticipated by, U.S. Patent No. 2,246,932 to Collins. Applicant respectfully requests that the Examiner reconsider this rejection in view of the below Remarks.

In response to Applicant's arguments concerning claim 1, the Office Action states that there "is no language in the claim to suggest that the communication of fluid to the outlet port and the communication of fluid to the second chamber necessarily occur simultaneously." (Final O.A. at 7). Applicant respectfully disagrees, and requests that the Examiner please review the claim language again. Claim 1 specifically recites:

a first conduit by which fluid in said first fluid chamber is communicated to said second fluid chamber when said pumping device is moved toward a second position; and

a second conduit by which fluid in said first fluid chamber is directly communicated to the outlet port when said pumping device is moved toward the second position and fluid in said first fluid chamber is communicated to said second chamber.

As indicated above, claim 1 recites that fluid is communicated through the first conduit to the second chamber *when the pumping device is moved toward a second position*, and that fluid is likewise communicated through the second conduit to the outlet *when the pumping device is moved toward the second position*. Additionally, claim 1 even further clarifies that the communication of fluid to the both the second chamber and the outlet happens simultaneously, reciting that “fluid in said first fluid chamber is directly communicated to the outlet port *when said pumping device is moved toward the second position and fluid in said first fluid chamber is communicated to said second chamber.*”

Accordingly, Applicant respectfully submits that claim 1 *does* explicitly recite the aforementioned arrangement, and thus, Applicant respectfully requests that the Examiner allow claim 1.

Independent Claim 28

The Examiner has rejected independent claim 28 under 35 U.S.C. §102 as anticipated by, U.S. Patent No. 4,700,680 to Pearce. Applicant respectfully requests that the Examiner reconsider this rejection in view of the below Remarks.

Applicant respectfully submits that Pearce does not disclose all the elements recited in independent claim 28, for several reasons.

First, Pearce does not disclose “urging a first volume of the compressed fluid through the outlet...”. The Office Action asserts that Pearce discloses urging a portion of the compressed fluid through the passage 42 to inlet chamber 12 “where is may be urged through outlet 16.” Applicant respectfully notes that this is not how Pearce operates. The inlet chamber 12 is a swirl chamber that receives fuel via the housing inlet 14. (Col.2, Ins. 51-56). This swirl chamber separates the liquid fuel from the vapors, and it is simply these vapors that exit the outlet 16, which are sucked out by a vacuum source. (Col.2, Ins. 57-64). Accordingly, the compressed fluid (i.e., the liquid fuel) is not urged through the outlet 16 when it recirculates into the inlet chamber 12.

Second, claim 28 recites:

compressing the fluid in a first compression area;
urging a first volume of the compressed fluid through the outlet while urging
a second volume of the compressed fluid to a second compression area;
further compressing the second volume of the compressed fluid;
urging the further compressed fluid through the outlet

As indicated above, claim 28 recites that the “first volume of the compressed fluid” (in the “first compression area”) is urged through the outlet, and that the “second volume of the compressed fluid” (in the “second compression area”) is urged through that same outlet. Pearce is simply not arranged this way.

For these reasons, Applicant respectfully requests that the Examiner allow claim 28.

Dependent Claim 29

The Office Action rejects independent claim 28 under 35 U.S.C. §103 as obvious over Pearce, noting that the pumping stages are positive displacement vane pumps, and that a compressive piston is “an obvious property of any pump.”

Applicant respectfully notes, as a preliminary matter, that the Office Action has failed to set forth any reason *why* one skilled in the art would allegedly modify Pearce in this way. *KSR Int'l Co. v. Teleflex, Inc.*, 127 S.Ct. 1727, 1741 (2007). Moreover, Applicant notes that the system of Pearce utilizes a first vane pump, a spacer, and a second vane pump, arranged in series and rotated collectively via drive shaft 26. (Col.3, Ins. 4-11). Applicant respectfully notes that one skilled in the art would not really modify a design such as Pearce to arrive at the present invention, which utilizes a single, reciprocating compressor. Applicant submits that this is a significant difference, which would completely change the fundamental design of Pearce, and therefore, an obviousness rejection is inappropriate. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959) (proposed modification cannot change the principle of operation of prior art device). Applicant respectfully submits that Pearce is a completely different type of device than the present invention, and the assertion that it is simply an obvious change to employ a single piston to compress the fluid in two compression chambers is an unfair reading of this prior art reference.

Independent Claim 27

The Office Action rejects independent claim 27 under 35 U.S.C. §103 as obvious over Collin at the time of the invention in view of Braun, U.S. Patent No. 4,111,609, and further in view of Mori, U.S. Patent No. 6,817,838. Applicant respectfully requests that the Examiner reconsider this rejection in view of the below Remarks.

Unlike the present invention, which has a housing with a drive shaft chamber for accommodating the coupling of a drive shaft (38) to the piston shaft (40), Collins does not disclose a drive shaft or a drive shaft chamber for accommodating one. Applicant respectfully submits that the fact that Collins mentions that its piston shaft may be connected "to any suitable source of power" is irrelevant. The issue is not whether Collins *could conceivably* employ a drive shaft coupled to the piston shaft. The point is, it does not *disclose or teach* using a drive shaft coupled to the piston shaft, and therefore, there would be no reason for one skilled in the art to look to references such as Braun or Mori to incorporate a housing with a drive shaft chamber or an oil seal for separating a drive shaft from a housing. In other words, because Collins does not disclose coupling the piston shaft to a drive shaft, one skilled in the art would not be motivated to incorporate these additional features to accommodate such an arrangement.

It is respectfully submitted that claims 1-30, all of the claims remaining in the application, are in order for allowance, and early notice to that effect is respectfully requested.

Respectfully submitted,

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